DOCUMENT RESUME

ED 242 245 HE 017 108

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TITLE Predictors of Department Viability in Periods of Decline.
PUB DATE [83]
NOTE 11p.
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Budgeting; *Departments; Enrollment Trends; *Evaluation Criteria; Higher Education; *Intellectual Disciplines; *Political Power; Predictor Variables; *Resource Allocation; Retrenchment

ABSTRACT

Characteristics of academic departments that affect resource allocation to departments by the college or university are discussed, especially in times of retrenchment. Attention is focused on the ability of academic departments to maintain or increase their share of the resources allocated by the central governing board. Relevant departmental characteristics can be categorized as rational, political, and structural. A rational criterion is one for which there is agreement as to its legitimacy and measurement (e.g., student enrollment and instructional units). Political characteristics include grants and contracts, which add to a department's power base. Additional contributions to departmental power include student enrollments in the department, and departmental representation on committees responsible for budget decisions and policy formation. Structural issues pertain to the internal arrangement of departments. This characteristic is generally referred to as "paradigm development," which concerns the real or perceived amount of consensus regarding certain aspects of the discipline. Methods that have been used to determine the level of paradigm development for a particular department include the direct questioning of faculty members and the computation of the average length of dissertations and abstracts. (SW)

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PREDICTORS OF DEPARTMENT VIABILITY IN PERIODS OF DECLINE

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Institutions of higher education are now or will soon be confronted with financial stress caused by declining enrollments and increased competition for governmental resources. Those responsible for the administration of these institutions - legislators, trustees, presidents, deans, etc. - are being forced to make increasingly difficult decisions concerning resource allocation.

This paper will focus on resource allocation within the institution: that is, the distribution of resources to departments by the college or university. The term viability is used in the title to convey the sense that departments are engaged in a struggle to protect and preserve themselves against cutbacks; viability in this context is a reflection of the ability of academic departments to maintain or increase their share of the resources allocated by the central governing board. Predictors are certain characteristics which can be empirically associated with the proportion of the institution's resources obtained by individual departments.

CHARACTERISTICS OF DECISION MAKING

Before examining these characteristics it is necessary to review how the decision making process changes as the resource level changes. Rubin (1977), in her reseach on five midwestern universities, found that decision making became more centralized under conditions of resource scarcity. This was evidenced by the fact that appointment decisions and program proposals were being reviewed at higher levels in the institutions. Departments were in competition with each other for limited personnel and equipment, where previously most reasonable requests were honored. This fits in nicely with Cyert and March's earlier (1963) research on allocation procedures within a firm where resource levels had dropped. Cyert and March argue that organization leaders become more concerned with the organization as a whole, and subunit (departmental) goals are given lesser priority. This is important because the subunits are actively trying to protect their budget level. Charles Levine refers to this as the Participation Paradox. He explains:

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> The field of organizational development teaches that the best way to manage change is to encourage the maximum amount of participation by all the affected parties. But, a rational cutback process will require that some people and programs be asked to take greater cuts than others. By encouraging participation, management also encourages protective behavior by those most likely to be hurt the most. The participation paradox confronts management with a nearly insoluble problem: how does one single out units for large sacrifices who have people participating in the cut process? (1979, p.181).

The solution to Levine's rhetorical question might be to avoid putting extra pressure on subunits by having the central administration take responsibility for cutback decisions.

It ought to be noted at this point that those scholars conducting research on this characteristic and those that follow did have opportunities to observe a relative drop in resource allocation to institutions of higher education across the nation. Up until the the early 1970's there was a great deal of expansion in higher education and state governments were quite generous to colleges and universities. Researchers in Illinois (Salancik and Pfeffer, 1974; Pfeffer and Salancik, 1974; Rubin, 1977), Minnesota (Hills and Mahoney, 1978), California (Pfeffer and Moore, 1980a, 1980b; Chaffee, 1980), and in the East (Lodahl and Gordon, 1972) were able to divide clearly the periods of resource abundance and scarcity in the states where their field work was conducted. Thus "conditions of resource scarcity" refers to the post-1972 (1975 in some of the studies) period.

A second characteristic of decision making where there is resource scarcity is the change of emphasis on the subunit or department level from excellence and growth to maintenance and survival; this is discussed at great length by Rubin (1977), Cyert (1978), and Levine (1978, 1979). Related to this was the finding that risk and innovation were reduced. As Rubin states:

> When department heads were asked the best strategies for increasing their budget during the retrenchment period they replied they had strategies to protect the the level of budget, but not to increase it. They felt that if they tried to increase their budgets they could end up worse off than they already were. Finally, some reported that they had stopped competing for funds for innovation. The competition was so keen that the likelihood of success was too small to motivate the effort involved with writing up proposals. (1977, p.253).

Departments such as these, according to Cyert, do not want to be "squeaky wheels" for fear that the administration will use that squeakiness against them. The departments, he feels, view themselves as better off by being "unobtrusive wheels" (1978, p.348).

A third characteristic of decision making under conditions of resource

scarcity is the need for better information about a decision's consequences for the organization as a whole. Decision making, according to Weick (1979), is often satsficing: that is, acting upon sufficient and available knowledge as opposed to complete knowledge. Solutions to problems are sought only until an adequate but not necessarily optimal answer is found. In colleges and universities, examples of this would be to blame the admissions office if enrollment were down, or to fire the president if fund raising fell short (Cyert, 1978). This was sufficient when there were enough slack resources available to produce "win-win consensus-building solutionsand side payments to overcome resistance" (Levine, 1978, p.317). When resource scarcity precluded this, administrators indicated to Rubin (1977) that there were two basic reasons that they felt they needed more information: first, they could not afford (either financially or politically) to make mistakes. Secondly, they were increasingly put into positions where they had to justify their rationale for making decisions to their staff and supervisors.

Thus, adminstrators are seeking more information about how to adapt to lower resource allocations while departments are trying to preserve the status quo. With this in mind it might be appropriate for decision makers to examine the "status quo" more closely. Several organizational theorists have done so, for the purpose of identifying departmental characteristics which influence resource allocation. While most of the studies of interest were conducted at colleges and universities, some important and relevant research was done using data from hospitals and the United Way, and when appropriate, these will be referred to also.

PREDICTORS OF BUDGET ALLOCATION

There is little doubt in the literature that the best predictor of a department's budget allocation is the previous year's allocation. This was found to be true for higher education by Pfeffer and Salancik (1974), Hills and Mahoney (1978), and Pfeffer and Moore (1980a). Pfeffer and Leong (1977) found it was also true for United Way agencies in Illinois. Budgets did not start with a zero-base, but with the previous budget, to which an increment (or decrement) was awarded. Hills and Mahoney (1977) used the amount of the increment as the dependent variable in their research while the others mentioned above used the entire allocation. Hills and Mahoney's rationale for using just the increment is that such a measure shows only the change in allocation; the rationale for using the entire departmental allocation (as a proportion of the university's total allocations) is that the base allocation had to be the result of something and using the entire budget,

not just the increment, is of more value in identifying the departmental characteristics influencing the budget.

These departmental characteristics which were found to be related to the proportion of the budget allocated to individual departments can be divided into three categories: rational, political, and structural.

Rational

A rational* criterion is one for which there is agreement as to its legitimacy and measurement. In the case of allocations to departments, student enrollment and instructional units fall into this category. Pfeffer and Salancik (1974), Pfeffer and Moore (1980b), and Rubin (1977) all used individual departments' proportional share of the total university enrollment as a predictor of each department's proportional share of the total university allocations; all found significant relationships (for example, $r=.67$, $p \leq .01$, for Pfeffer and Moore). Pfeffer and Salancik (1974) and Hills and Mahoney (1978) used instructional units (the number of students taught multiplied by the number of credit hours per course) for the same purpose, and also found significant results.

Both of these measurements represent student demand for courses in the department and there is little argument that in many institutions they are believed to be the sole criteria for allocations. There are, however, several other characteristics which are strong predictors of budget allocations.

Political

The second group of characteristics infuencing resource allocations are those considered as part of the political decision making model. Central to this is the notion of power, a concept not easily defined but intuitively real. A very basic definition is offered by Pfeffer: power is the "capability of one social actor to overcome resistance in achieving a desired object or result" (1981, p.2). For the purpose of the present study, the power model developed by Pfeffer and Salancik (1974) and then replicated by Pfeffer and Moore (1980b) should be appropriate:

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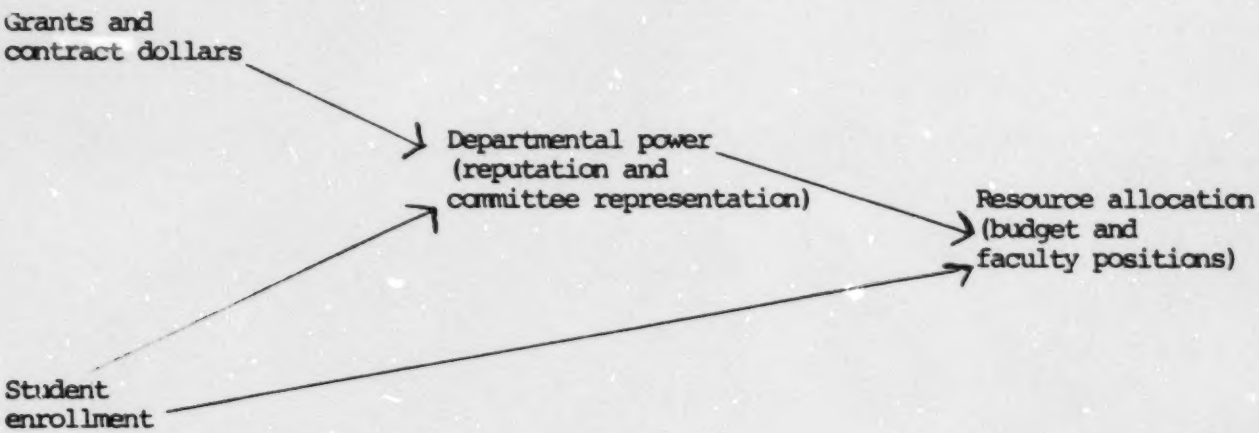
* For a complete discussion of rational decision making models, see Pfeffer, 1981, chapter one.



Model of Power in Decisions on Budget Allocations (Pfeffer and Moore, 1980b, p.638)

Grants and contracts add to a department's power base for several reasons. First, there is generally some form of competition to receive them and thus the procurement of grants and contracts enhances the reputation of the "winning" department. Also, while grants and contracts are awarded to faculty members within departments, the central administration receives a percentage of the award to cover administrative overhead costs. The university or college is dependent upon individual departments to the extent that they are able to attract outside dollars. Thus the more money a department has access to outside the institution, the greater the power that department has in relation to the other departments and the institution as a whole. This was found to be true by Salancik and Pfeffer (1974), Pfeffer and Salancik (1974), Hills and Mahoney (1978), Chaffee (1980), and Pfeffer and Moore (1980b).

Student enrollment contributes to departmental power in a manner similar to grants and contracts. The operating funds for the college or university come from the state (public institutions) and from tuition income (public and independent institutions), often on a per student basis. Departments which can attract more students to the institution add to the income of the institution, thus increasing those departments' importance. This hypothesis was supported in the same studies discussed above.

It was thought by Salancik and Pfeffer (1974) that the national prestige or reputation of a department might be related to departmental power. No effect

was found. In their replication of this original study, Pfeffer and Moore (1980b) obtained the same result; they found no measurable relationship between power and reputation, nor between resource allocation and reputation.

Committee representation on those committees responsible for budget decisions, educational development and policy, research, and graduate studies was found to be a very important element in the model. It is highly correlated with all the other eleemnts of the diagram, and it is a significant factor in the regression equations of Pfeffer and Salancik (1974) and Pfeffer and Moore (1980b) predicting resource allocation from power and enrollment.

Up to this point the notion of personal power has not been addressed. That is, what is the effect, if any, of the ability of an individual department chairperson, faculty member, or committee member on departmental power or resource allocation? For the most part, such individuals will channel those personal abilities through a model such as that on the previous page. They will use their personal skills to attract grants and students, thereby increasing the power of their departments and the allocation of resources within the institution. Such individuals would presumably have a great deal of power within their own departments; how such a notion could be operationalized or what its implications would be for hiring would be an interesting research project in itself.

Power, then, in this context of resource allocation within colleges and universities, is a function of the dependency that exists between individual departments and institutions: the more dependent the institution is on the department to attract funding and students, the greater the power that department has within the institution.*

Structural

The final characteristic that will be discussed is structural in nature. It deals with the internal arrangement of departments and is generally referred to as paradigm development.

The degree of paradigm develpoment associated with a particular academic discipline (usually a physical or social science field) refers to the real or perceived amount of consensus regarding certain aspects of the discipline. Walmsly and Zald, discussing public administration theory, define a paradigm as

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* Pfeffer and Leong (1977) is an excellent example of how this type of dependency relationship operates. Though their research here is on United Way agencies, the principles and conclusions are certainly transferable to higher education.

something that...

> ... represents a consensus for a field of inquiry. It provides decision rules for a discipline, and sets out a logic or conceptual map by which one proceeds to analyze and from which one draws inferences. It creates and is created by a distinctive coherent research tradition. Basic tenets of the field remain unquestioned, while work is limited to the solution of paradigmatic puzzles (1973, p.2).

Lodahl and Gordon (1972) define paradigm as the "...degree of consensus or sharing of beliefs within a scientific field about theory, methodology, techniques, and problems" (p.58). They operationalized the concept of paradigm by measuring the degree to which consensus of opinion in areas such as survey course content, the desirability of graduate students, and the desired amount of time spent advising students was associated with the degree to which a paradigm was believed to be developed for the particular fields.**

For the most part, their results were consistent with the hypothesis that faculty members in departments with more developed paradigms, such as chemistry and physics, exhibited a greater amount of consensus in the areas of teaching, advising and research than did the faculty in departments with less developed paradigms, such as sociology and political science. There are several reasons for this relationship, according to Lodahl and Gordon (1972). First, high paradigm fields exhibited more of a shared vocabulary, leading to a greater parsimony of communication. This was supported in the later findings of Salancik and Pfeffer (1974) and Pfeffer and Moore (1980a). In these studies, the average length of dissertations and dissertation abstracts was computed from twenty-five random dissertations and another twenty-five abstracts in each of twenty fields. Dissertations and abstracts were significantly shorter in the physical science fields as opposed to the social sciences and the humanities, thus reinforcing

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** The question Lodahl and Gordon used reads as follows:

> Scientific fields are often said to vary in the their degree of development or maturity. Whether or not you agree with all the implications of this statement, it is probably true in some scientific fields scientists are more uniform in their scientific practice than in others. This is because their field has a larger body of generally accepted theory and agreed-upon methodologies - paradigms on which to base their present investigations.
>
> Please rank the following fields on the degree to which you feel there is a consensus over paradigms (law, theory, and methodology) within the field (1=most consensus). (1972, p.59).

Lodahl and Gordon's earlier findings.

A second reason that Lodahl and Gordon offer for the relationship between high paradigm development and high consensus is that a well developed paradigm provides an "accumulation of detailed information (scientific findings) on what has been successful in the past" (1972, p.61). In other words, there is a higher level of agreement on methods, results, and conclusions. And, finally, Lodahl and Gordon put forth that structure enhances predictability, and that fields with highly developed paradigms exhibit more structure, and are therefore more predictable.

Several of the methods that have been used to determine the level of paradigm development for a particular department have been discussed above. These include the direct questioning of faculty members and the computation of the average length of dissertations and abstracts. Salancik and Pfeffer (1974) and Pfeffer and Moore (1980a, 1980b) also included what they thought to be a local measure of paradigm development: the longest sequence of prerequisite courses within each department. This was highly correlated with the other measures of paradigm development; for example, the longest chain of prerequisites had a negative correlation of .83 ($p \leq .001$) with the average length of dissertations in Pfeffer and Moore's 1980a study. This is similar to the results found in other studies mentioned above. Lodahl and Gordon (1972) also examined membership in professional societies as a possible indicator of consensus or differentiation within a field. This was not discussed extensively.

Pfeffer and Moore (1980b) and Chaffee (1980) both found that paradigm development was significantly related to both the number and amounts of grants and contracts received, and the proportional share of the budget received.

A final point about paradigm development is that in the studies cited above, an assumption was made that high paradigm development entailed there being one paradigm within the department and that low paradigm development meant that there were many small paradigms. Correlation along these lines is likely to be high; there is, however, the possibility that there are departments that would be classified as high paradigm departments even though there is a great deal of internal differentiation; an example would be a physics department that had separate course progressions for theoretical physics, as opposed to applied or experimental physics. There may be departments that contain several whole paradigms within them: in a smaller college or university an English department may contain the fields of journalism and linguistics as well as literature and creative

writing. There may also be departments that could be classified as low paradigm departments that have few subparadigms and little internal differentiation: a political science department in which all members have similar political philosophies may fit into this category. More research needs to be done in this area before a real understanding of the paradigm phenomena can be developed.

CONCLUSION

The purpose of this paper was to present some characteristics of academic departments which affect the allocation of resources within institutions of higher education, especially under conditions of resource scarcity when such information is more valuable. Information on all the characteristics discussed above - student enrollment, instructional units, grants and contracts, departmental representation on faculty committees, the number of words in dissertations and abstracts, the listings of course prerequisites - can all be gathered by the administration of an institution indirectly and discreetly, especially at public institutions. All the information can be obtained from the institution's archives, financial records, and course catalogues. The two measures included in the research discussed above that cannot be obtained through a document search - department chairpersons' perceptions of which departments were powerful and which departments had highly developed paradigms - were so highly correlated with their more objective counterparts that their omission detracts only slightly (if at all) from the data.

The results and implications of these studies could be useful to administrators who are confronted with the task of institutional retrenchment. There are, however, limitations. The rationale as to <u>why</u> some of these relationships exist and the ethical questions as <u>ought</u> they exist are left unanswered. Knowing these relationships are there may assist in putting the problem of resource allocation in perspective, but it will not make the difficult decisions concerning where and how to make cutbacks any less simple or painful.

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